WHAT IS CLAIMED IS:

1. An optical material which is a mixture of materials comprising a first material having a refractive index of not more than 1.45 for the d-line and a second material having an Abbe's number of not more than 25, wherein a relation between a refractive index for the d-line (n_d) and an Abbe's number (ν_d) is defined as follows:

$$n_d \leq -6.667 \times 10^{-3}\nu_d + 1.70.$$

2. The optical material of Claim 1 wherein said Abbe's number (ν_d) is less than 40.

3. The optical material of Claim 1 wherein said second material comprises particles having the grain size in the range of 2 to 100 nm.

4. The optical material of Claim 1 wherein said first material is an amorphous fluororesin.

5. The optical material of Claim 1 wherein said second material is particles of a composite metal oxide of titanium and silicon (Si_x-$Ti_{(1-x)}O_2$) having the Abbe's number (ν_d) of 24.4.

6. The optical material of Claim 1 wherein said first material is an amorphous fluororesin, said second

material is particles of a composite metal oxide of titanium and silicon (Si_x-$Ti_{(1-x)}O_2$) having the Abbe's number (ν_d) of 24.4, and a weight ratio of the particles and said amorphous fluororesin is in the range of 45:100 to 75:100.

7. The optical material of Claim 1 wherein said first material is a dimethylsilicone resin.

8. The optical material of Claim 1 wherein said second material comprises particles of titanium oxide (TiO_2).

9. The optical material of Claim 1 wherein said first material is a dimethylsilicone resin, said second material is particles of titanium oxide (TiO_2), and a weight ratio of the titanium oxide and said dimethylsilicone resin is in the range of 18:100 to 70:100.

10. An optical material wherein a relation between a refractive index for the d-line (n_d) and an Abbe's number (ν_d) satisfies the following condition:

$$n_d \leq -0.01\nu_d + 1.70.$$

11. An optical material which is a mixture of materials comprising a first material having a

refractive index of not more than 1.40 for the d-line and a second material having an Abbe's number of not more than 15, wherein a relation between a refractive index for the d-line (n_d) and an Abbe's number (ν_d) is defined as follows:

$$n_d \leq -0.01\nu_d + 1.70.$$

12. The optical material of Claim 10 or 11 wherein said Abbe's number (ν_d) is not more than 40.

13. The optical material of Claim 11 wherein said second material comprises particles having the grain size in the range of 2 to 100 nm.

14. The optical material of Claim 11 wherein said first material comprises an amorphous fluororesin.

15. The optical material of Claim 11 wherein said second material comprises particles of titanium oxide (TiO_2).

16. The optical material of Claim 11 wherein said first material is an amorphous fluororesin, said second material is particles of titanium oxide (TiO_2), and a weight ratio of the titanium oxide and said amorphous fluororesin is in the range of 7:100 to 90:100.

17. An optical material which is a mixture of materials comprising a first material having a refractive index for the d-line in the range of 1.45 to 1.55 both inclusive and a second material having an Abbe's number of not more than 10, wherein a relation between a refractive index for the d-line (n_d) and an Abbe's number (ν_d) is defined as follows:

$$n_d \leq -6.667 \times 10^{-3}\nu_d + 1.70.$$

18. The optical material of Claim 17 wherein said Abbe's number (ν_d) is not more than 40.

19. The optical material of Claim 17 wherein said second material comprises particles having the grain size in the range of 2 to 100 nm.

20. The optical material of Claim 17 wherein said second material is ITO (indium-tin-oxide).

21. The optical material of Claim 17 wherein said first material is polymethyl methacrylate.

22. The optical material of Claim 17 wherein said first material is polymethyl methacrylate, said second material is particles of ITO (indium-tin-oxide), and a weight ratio of the particles and said polymethyl methacrylate is in the range of 30:100 to 250:100.

23. The optical material of Claim 17 wherein said first material is an amorphous polyolefin.

24. The optical material of Claim 17 wherein said first material is an amorphous polyolefin, said second material is particles of ITO (indium-tin-oxide), and a weight ratio of the particles and said amorphous polyolefin is in the range of 44:100 to 150:100.

25. The optical material of Claim 17 wherein said first material is a copolymer of methyl methacrylate and styrene.

26. The optical material of Claim 17 wherein said first material is a copolymer resin of methyl methacrylate and styrene, said second material is particles of ITO (indium-tin-oxide), and a weight ratio of the particles and said copolymer resin is in the range of 43:100 to 140:100.

Sub a1 > 27. An optical member comprising the optical material as set forth in either one of Claims 1 to 26.

28. An optical system comprising the optical member of Claim 27.

Sub a2 > 29. A diffracting optical element using the

Sub a2 Concld.> optical material as set forth in either one of Claims 1 to 26.

30. An optical system comprising the diffracting optical element of Claim 29.

Sub a3> 31. An optical device comprising the optical system of Claim 28 or 30.

32. A method for producing an optical material, comprising a step of decreasing a filling factor of a first material, and a step of filling gaps of the first material of the decreased filling factor with a second material having an Abbe's number different from that of the first material, thereby producing an optical material having a desired refractive index and an Abbe's number.

33. An optical member comprising the material produced by the production method as set forth in Claim 32.

34. An optical system comprising the optical member of Claim 33.

35. The optical system of Claim 34 wherein said optical member is a diffracting optical element.

36. An optical device comprising the optical system of Claim 34 or 35.

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